

Supporting Information

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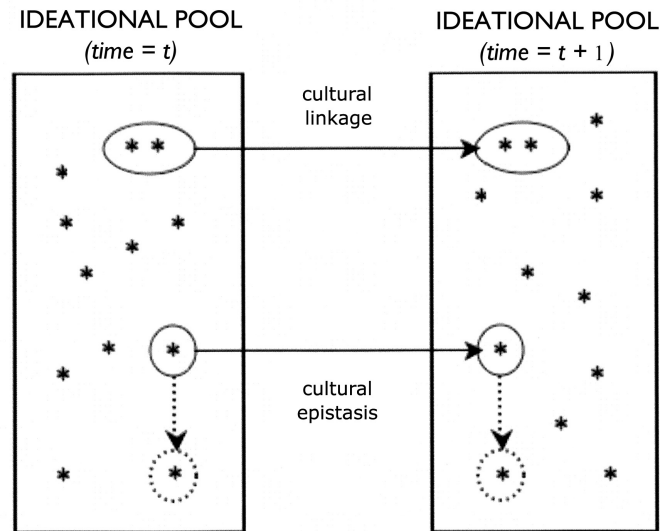


Fig. S1. Cultural linkage and cultural epistasis. Linkage occurs with the joint transmission of ideas. Epistasis entails that one idea is transmitted, which brings another idea forward as a logical consequence.

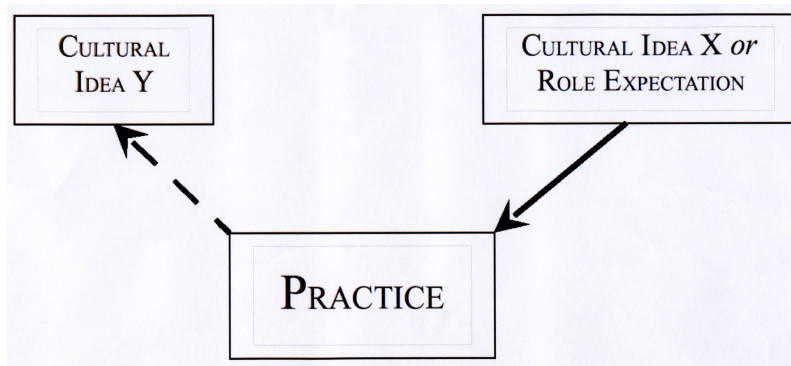


Fig. S2. Cultural exaptation. Note that the origin of the practice, the role expectation or cultural idea, *x*, is different from the later association to cultural idea *y*.



Fig. S3. Thai Tsoo altar (1991, Toushe village). Changes made by male spirit mediums include the raised central altar, proliferation of red-wrapped vases (the object of worship), and use of incense burners (green pot on the central altar, brass pot on the offering table). Before 1930, under female spirit-medium authority, the central altar was at the level of the right side-altar (partially in view below the pig skulls), had only one vase and no incense burners, and used pig skulls instead of a written flag.



Fig. 54. Grave site with offerings of food, spirit money, and incense (Tombsweeping Festival 1991, Toushe village).



Fig. S5. Same grave site (as in Fig. S4) before clearing the site of plant growth (Tombsweeping Festival 1991, Toushe village).

Table S1. Terms, definitions, and examples

Term (related figure)	Definition	Example
Culture		
Cultural idea	Shared, meaningful idea; learned symbolically	1. Spirits of the dead need offerings. 2. Humans are sinners.
	Can masquerade as a role expectation	Religious converts who treat a relationship with the deity as a social interaction.
Cultural transmission	Broadcasting, reception and internalization of ideas perceived as meaningful (because believed by some percentage of the population)	In the past, many people in Taiwan and China accepted as meaningful the idea that a girl should have bound feet.
Cultural selection (Fig. 1)	When ideas already held by an individual influence his/her subsequent cultural transmission	Tan A-lien's belief that the Thai Tsoo spirit medium ought to be a woman led her to try to recruit Lim Mui-moe.
Cultural niche construction (Fig. 1)	Back-influence of belief (or disbelief) on whether an idea is accepted as meaningful in the population	Han affines' belief in the need for grave-site rituals made former plains Aborigines see these rituals as meaningful.
Cultural linkage (Fig. S1)	Two ideas are explicitly transmitted together.	"Jesus is God" and "humans as sinners" usually transmit together.
Cultural epistasis (Fig. S1)	Two ideas become associated because the content of one idea is a logical consequence of the other idea.	Grave-site rituals require grave-site markers.
Cultural exaptation (Fig. S2)	A cultural idea, assumed to be motivational, becomes associated with a practice after the latter's origin.	
	Type 1: A practice appears in the absence of a motivating idea.	Type 1. The idea that spirits of the dead need offerings was associated with grave-site rituals in Danei after its origin.
	Type 2: A practice appears in the presence of an antithetical idea.	Type 2. A man became Thai Tsoo spirit medium even though the community believed a woman should hold the role.
Cultural adaptiveness	An idea is culturally adaptive when it motivates behavior by individuals (which can affect cultural transmission and selection).	The local cultural idea that a woman should be spirit medium motivated Tan A-lien's attempt to recruit Lim Mui-moe.
Society		
Role (Fig. 1)	A set of shared, negotiated role expectations; must be consistent	1. Spirit medium 2. Priest
Role expectation	Expectation of behavior; learned from social interactions; must be accurate	1. Spirit mediums go into trance. 2. Priests serve communion.
Social transmission	Internalization of expectations abstracted from observation or reports of social interactions (based on actual negotiated outcomes).	In the past, people expected that a Han mother would know how to bind her daughter's feet.
Social selection (Fig. 1)	When expectations already held by an individual influence his/her subsequent negotiations in social interactions	Lim Mui-moe refused to train as spirit medium because of her expectations regarding social interactions with sisters-in-law over childcare.
Social niche construction (Fig. 1)	Feedback of social precedent(s) on which expectations are shared for a role	After one man succeeded in negotiating a Han daughter-in-law, others did too.
Social linkage (Fig. 2)	Two roles are transmitted together because of at least one shared role-expectation explicitly linking them.	The roles of bride and groom

Term (related figure)	Definition	Example
Social epistasis (Fig. 2)	Two roles without shared expectations become associated because the roles are held by the same person.	The role of bride and the role of Thai Tsoo spirit medium
Social exaptation	A role-expectation, assumed to be motivational, becomes associated with a practice after the latter's origin.	(Not discussed)
Social adaptiveness	A role-expectation is socially adaptive when it motivates behavior by individuals (which can affect cultural transmission and selection).	Expectations about being a virilocal bride motivated Lim Mui-Moe's refusal of the spirit medium role.
Culture–Society Associations Institution (Fig. 1)	Integration of an idea-set with a role-structure	Integration of footbinding and kinship such that footbinding served as an endogamous marker in Danei
Sociocultural epistasis (Fig. 1)	Association of cultural ideas and roles due to structural overlap of a person holding both roles and ideas	<ol style="list-style-type: none"> 1. Association of male Thai Tsoo spirit medium with Han religious practices 2. Association of Han brides with grave-site rituals